

Form PTO-1449

Docket Number 427922000920

Application Number 09/939,327

# INFORMATION DISCLOSURE CITATION IN AN APPLICATION

(Use several sheets if necessary)

Applicant

Mingqi ZHAO et al.

Filing Date August 24, 2001

Group Art Unit 4743 1753

Mailing Date July 15, 2002



## U.S. PATENT DOCUMENTS

Examiner Initials	Ref. No.	Date	Document No.	Name	Class	Subclass	Filing Date If Appropriate
ADD	1.	11/27/1956	2,772,322	Witt et al.	—	—	
ADD	2.	06/14/1960	2,940,830	Thornhill	—	—	
ADD	3.	11/07/1967	3,351,495	Larson	—	—	
ADD	4.	10/03/1972	3,696,061	Selsor et al.	—	—	
ADD	5.	04/03/1973	3,725,520	Suzuki et al.	—	—	
ADD	6.	01/21/1975	3,862,030	Goldberg	—	—	
ADD	7.	09/02/1975	3,903,234	Ikeda et al.	—	—	
ADD	8.	07/06/1976	3,967,978	Honda et al.	—	—	
ADD	9.	05/17/1977	4,024,323	Versteegh	—	—	
ADD	10.	07/25/1978	4,102,746	Goldberg	—	—	
ADD	11.	09/25/1979	4,169,014	Goldberg	—	—	
ADD	12.	07/01/1980	4,210,709	Doi et al.	—	—	
ADD	13.	10/07/1989	4,226,926	Goldberg et al.	—	—	
ADD	14.	12/02/1989	4,237,083	Young et al.	—	—	
ADD	15.	06/15/1982	4,335,193	Doi et al.	—	—	
ADD	16.	09/21/1982	4,350,655	Hoge	—	—	
ADD	17.	09/18/1984	4,472,328	Sugimoto et al.	—	—	
ADD	18.	04/29/1986	4,585,604	Okuyama et al.	—	—	
ADD	19.	07/01/1986	4,597,828	Tadros	—	—	
ADD	20.	09/23/1986	4,613,643	Nakumura et al.	—	—	
ADD	21.	03/10/1987	4,648,417	Johnson et al.	—	—	
ADD	22.	07/21/1987	4,681,750	Johnson et al.	—	—	
ADD	23.	03/29/1988	4,734,229	Johnson et al.	—	—	
ADD	24.	07/26/1988	4,759,986	Marikar et al.	—	—	
ADD	25.	08/23/1988	4,765,864	Holland et al.	—	—	
ADD	26.	12/13/1988	4,791,144	Nagou et al.	—	—	

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4/1/04

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Docket Number 427922000920

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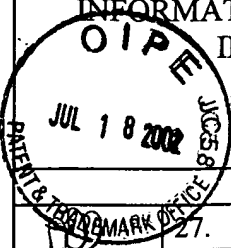
Applicant

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27.	05/23/1989	4,833,172	Schwarz et al.	—	—	
28.	08/29/1989	4,861,644	Young et al.	—	—	
29.	09/19/1989	4,868,008	Marikar et al.	—	—	
30.	10/17/1989	4,874,500	Madou et al.	—	—	
31.	03/13/1990	4,908,112	Pace	—	—	
32.	07/31/1990	4,945,135	Grubbs et al.	—	—	
33.	09/10/1991	5,047,283	Leatherman et al.	—	—	
34.	06/30/1992	5,126,022	Soane et al.	—	—	
35.	03/02/1993	5,191,026	Nishi et al.	—	—	
36.	03/30/1993	5,198,511	Brown Wensley et al.	—	—	
37.	05/17/1994	5,312,940	Grubbs et al.	—	—	
38.	08/30/1994	5,342,909	Grubbs et al.	—	—	
39.	03/12/1996	5,498,392	Wilding et al.	—	—	
40.	11/05/1996	5,571,410	Swedberg et al.	—	—	
41.	12/17/1996	5,585,069	Zanzucchi et al.	—	—	
42.	12/24/1996	5,587,128	Wilding et al.	—	—	
43.	02/04/1997	5,599,432	Manz et al.	—	—	
44.	02/18/1997	5,603,351	Cherukuri et al.	—	—	
45.	02/25/1997	5,605,662	Heller et al.	—	—	
46.	05/20/1997	5,630,924	Fuchs et al.	—	—	
47.	06/03/1997	5,635,358	Wilding et al.	—	—	
48.	06/10/1997	5,637,469	Wilding et al.	—	—	
49.	01/06/1998	5,705,813	Apffel et al.	—	—	
50.	02/10/1998	5,716,825	Hancock et al.	—	—	
51.	05/12/1998	5,750,015	Soane et al.	—	—	
52.	08/11/1998	5,792,943	Craig	—	—	
53.	01/12/1999	5,858,187	Ramsey et al.	—	—	
54.	01/12/1999	5,858,188	Soane et al.	—	—	
55.	01/12/1999	5,858,195	Ramsey	—	—	
56.	01/19/1999	5,861,242	Chee et al.	—	—	
57.	05/04/1999	5,900,130	Benvegna et al.	—	—	

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	Applicant Mingqi ZHAO et al.	
	Filing Date August 24, 2001	Group Art Unit 1743 1753
	Mailing Date July 15, 2002	

58.	05/25/1999	5,906,723	Mathies et al.	—	—	
59.	08/24/1999	5,942,443	Parce et al.	—	—	
60.	01/04/2000	6,010,607	Ramsey	—	—	
61.	03/07/2000	6,033,546	Ramsey	—	—	
62.	08/08/2000	6,099,939	Mittal et al.	—	—	


## FOREIGN PATENT DOCUMENTS

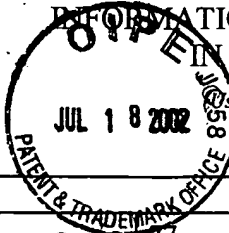
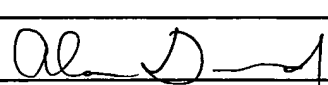
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ADD	63.	05/02/1984	EP 0107631	Europe	—	—	—	—
ADD	64.	07/04/1990	EP 0376611	Europe	—	—	—	—
ADD	65.	10/19/1994	EP 0620432	Europe	—	—	—	—
ADD	66.	12/09/1987	GB 2191110	United Kingdom	—	—	—	—
ADD	67.	11/09/1988	GB 2204270	United Kingdom	—	—	—	—
ADD	68.	11/14/1991	WO 91/16966	WIPO	—	—	—	—
ADD	69.	02/15/1996	WO 96/04547	WIPO	—	—	—	—
ADD	70.	10/15/1998	WO 98/45693	WIPO	—	—	—	—
ADD	71.	04/22/1999	WO 99/19717	WIPO	—	—	—	—

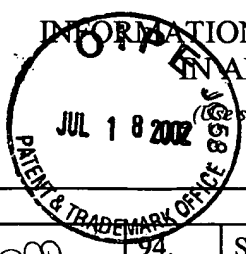

## OTHER DOCUMENTS

(including author, title, Date, Pertinent Pages, Etc.)

Examiner Initials	Ref. No.	Title
ADD	72.	Bart, S.F. et al. (1990). "Microfabricated electrohydrodynamic pumps," <i>Sensors and Actuators A21-A23</i> :193-197
ADD	73.	Bergveld, P. (1994). "The challenge of developing $\mu$ -tas," in <i>Micro Total Analysis Systems A</i> . Van Den Berg and P. Bergveld (eds.), MESA research Institute. pp. 1-4
ADD	74.	Burns, M.A. et al. (1996). "Microfabricated structures for integrated DNA analysis," <i>Proc. Natl. Acad. Sci. USA</i> 93:5556-5561
ADD	75.	Effenhauser, C. S. et al. (1997). "Integrated Chip-based Capillary Electrophoresis," <i>Electrophoresis</i> 18:2203-2213
ADD	76.	Elwenspoek, M. et al. (1994). "Towards Integrated Microliquid Handling Systems," <i>J. Micromech. Microeng.</i> 4:227-245

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		Filing Date August 24, 2001	Group Art Unit 1743 1753
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ADD	77.	Fan, Z. (1994). "Micromachining, Capillary Electrophoresis, Polymers, and Their Applications to Chemical Sensors," <i>University of Alberta Graduate Thesis</i> . pp.1-210.	
ADD	78.	Fuhr, G. et al. (1994). "Travelling wave-driven microfabricated electrohydrodynamic pumps for liquids," <i>J. Micromech. Microeng.</i> 4:217-226	
ADD	79.	Gravesen, P. et al. (1993). "Microfluidics-a review," <i>J. Micromech. Microeng.</i> 3:168-182	
	80.	Hashimoto, M. "Synthesis and Properties of Hydrogenated Ring Opening Metathesis Polymer," <i>Polymeric Materials: Science and Engineering, American Chemical Society</i> 76: 61. (date Unknown).	
ADD	81.	Kumar, A. et al. (1993). "Features of gold having micrometer to centimeter dimensions can be formed through a combination of stamping with an elastomeric stamp and an alkanethiol "ink" followed by chemical etching," <i>Appl. Phys. Lett.</i> 63(14):2002-2004	
ADD	82.	Kumar, A. et al. (1994). "Patterning self-assembled monolayers: Applications in materials science," <i>Langmuir</i> 10(5):1498-1511	
ADD	83.	Lammerink, T.S.J. et al. (1996). Modular concept for fluid handling systems," Ninth Intl Workshop on Micro Electro Mech Sys, IEEE. pp.389-399	
ADD	84.	Manz, A. et al. (1990). "Design of an open-tubular column liquid chromatograph using silicon chip technology," <i>Sensors and Actuators B1</i> :249-255	
ADD	85.	Manz, A. et al. (1991). "Integrated electroosmotic pumps and flow manifolds for total chemical analysis systems," <i>Digest of Transducers '91; Proc of IEEE.</i> pp.939-942	
ADD	86.	Manz, A. et al. (1995). "μ-Tas: Miniaturized total chemical analysis systems," in <i>Micro Total Analysis Systems</i> . A. Van Den Berg and P. Bergveld (eds.) Kluwer Academic Publishers. pp. 5-27	
ADD	87.	McCormick, R.M. et al. (1997). "Microchannel Electrophoretic Separations of DNA in Injection-Molded Plastic Substrates," <i>Anal. Chem.</i> 69:2626.	
ADD	88.	Menon, V.P. et al. (1995). "Fabrication and Evaluation of Nanoelectrode Ensembles," <i>Analytical Chemistry</i> 67(13):1920-1928.	
ADD	89.	Mittal K.L. ed. (1989). <i>Metallized Plastics. Fundamentals and Applications</i> . Marcel Dekker, Inc:New York. (Table of Contents only)	
ADD	90.	Northrup, M.A. et al. (1993). "DNA Amplification with a Fabricated Reaction Chamber," <i>The 7th International Conference on Solid-State Sensors and Actuators</i> June 7-10. pp. 924-926.	
ADD	91.	Richter, A. et al. (1991). "A micromachined electrohydrodynamic (EHD) pump," <i>Sensors and Actuators A29</i> :159-168	
ADD	92.	Richter, A. et al. (1991). "Electrohydrodynamic pumping and flow measurement," <i>MEMS '91; Proc. IEEE</i>	
ADD	93.	Ružička, J. et al. (1994). "Integrated microconduits for flow injection analysis," <i>Analytica Chimica Acta</i> 161:1-25	
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94.	Schut, J.H. (2000). "New Cyclic Olefins are Clearly Worth a Look," <i>Plastic Technology</i> 46(3):44 and 46.		
95.	Shoji, S. et al. (1994). "Microflow devices and systems," <i>J. Micromech. &amp; Microeng.</i> 4:157-171		
96.	Thormann, W. et al. (1984). "Detection of transient and steady states in electrophoresis: Description and applications of a new apparatus with 255 potential gradient detectors along the separation trough," <i>Electrophoresis</i> 5:323-337		
97.	Verpoorte, E.M. et al. (1994). "Three-dimensional micro flow manifolds for miniaturized chemical analysis systems," <i>J. Micromech. Microeng.</i> 4:246-256		
98.	Washizu, M. et al. (1987). "Novel method of cell fusion in field constriction area in fluid integrated circuit," <i>Conference Record of IEEE/IAS</i> , pp. 1549-1553		
99.	Wilbur, J.L. et al. (1994). "Microfabrication by microcontact printing of self-assembled monolayers," <i>Adv. Materials</i> 6(7/8):600-604		
100.	Wood, A.S. (1988). "Film and Design Developments Power a Buildup in Flexible Circuitry," <i>Modern Plastics</i> December, pp. 73-75.		
101.	Wood, A.S. (1988). "Molded 3-D Circuit Boards: Market Takeoff Coming in 1989," <i>Modern Plastics</i> December, pp. 64-71.		
102.	Wood, F. et al. (1989). "Two New Processes Make Circuitry a Part of the Part," <i>Research &amp; Development</i> pp. 71, 72 and 74.		
103.	Woolley, A.T. et al. (1996). "Functional integration of PCR amplification and capillary electrophoresis in a microfabricated DNA analysis device," <i>Analytical Chemistry</i> 68(23):4081-4086		
104.	Zhao, M. et al. (2000). "Distribution and Mixing of Reagent on Multichannel Plastic Chips," in <i>Technical Digest of the 2000 Solid-State Sensor and Actuator Workshop</i> . Transducers Research Foundation: Cleveland. pp. 183-186.		
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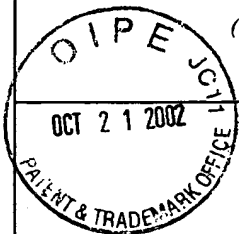
Applicant

Mingqi ZHAO et al.

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Group Art Unit ~~1743~~ 1753

Mailing Date October 16, 2002



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Examiner Initials	Ref. No.	Date	Document No.	Name	Class	Subclass	Filing Date If Appropriate
ADD	1.	11/30/1999	5,992,820	Fare et al.	—	—	
ADD	2.	02/15/2000	6,024,854	Gilchrist	—	—	
ADD	3.	05/16/2000	6,063,589	Kellogg et al.	—	—	

## FOREIGN PATENT DOCUMENTS

Examiner Initials	Ref. No.	Date	Document No.	Country	Class	Subclass	Translation YES NO
ADD	4.	08/25/1998	AT 404 099	Austria & Derwent English Abstract	—	—	✓

## OTHER DOCUMENTS

(including author, title, Date, Pertinent Pages, Etc.)

Examiner Initials	Ref. No.	Title
ADD	5.	Hashimoto, M. (1997). "Synthesis and Properties of Hydrogenated Ring Opening Metathesis Polymer," <i>Polymeric Materials: Science and Engineering, American Chemical Society</i> 76: 61.

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## U.S. PATENT DOCUMENTS

Examiner Initials	Ref. No.	Date	Document No.	Name	Class	Subclass	Filing Date If Appropriate

## FOREIGN PATENT DOCUMENTS

Examiner Initials	Ref. No.	Date	Document No.	Country	Class	Subclass	Translation YES NO

## OTHER DOCUMENTS

(including author, title, Date, Pertinent Pages, Etc.)

Examiner Initials	Ref. No.	Title
ADD	1.	Bianchi, F. et al. (1998). "Photoablated Micro-Structures for Electrophoresis," <i>Nanotech '98, Ecole Polytechnique de Lausanne</i> , 18 pages.
ADD	2.	Northrup, M.A. et al. (January 25-28, 1993). "DNA Amplification with a Microfabricated Reaction Chamber," <i>The 7<sup>th</sup> International Conference on Solid-State Sensors and Actuators</i> , Digest of Technical Papers, Transducers '93, June 7-10, 1993, Pacifico, Yokohama, Japan, pp. 924-926.
ADD	3.	Reymond, F. et al. (1999). "Electrochemical Sensor Research at the Laboratoire d'Electrochimie of the EPFL," <i>Chimia</i> 53(3):103-108.
ADD	4.	Rossier, J.S. et al. (1997). "Electrode Materials Generated by Scanning UV-Laser Deposition from Polystyrene," <i>Electrochemical Society Proceedings</i> , Paris, France, page 826, abstract no. 703.
ADD	5.	Rossier, J.S. (1999a). "Photoablated Polymer Microsystems for Electro- and Biochemical Analyses," <i>Ph.D. Thesis NR 2102, Ecole Polytechnique Federale de Lausanne, Switzerland</i> , located at < <a href="http://dcwww.epfl.ch/le/ICP3-Theses/ICP3-Rossier.html">http://dcwww.epfl.ch/le/ICP3-Theses/ICP3-Rossier.html</a> > on November 5, 2002, 168 pages.
ADD	6.	Rossier, J.S. et al. (1999b). "Electrochemical Detection in Polymer Microchannels," <i>Anal. Chem.</i> 71(19):4294-4299.
ADD	7.	Rossier, J.S. et al. (1999c). "Microchannel Networks for Electrophoretic Separations," <i>Electrophoresis</i> 20:727-731.
ADD	8.	Rossier, J.S. et al. (1999d). "Nanocrystalline Carbon Film Electrodes Generated and Patterned by UV-Laser Ablation of Polystyrene," <i>Phys. Chem. Chem. Phys.</i> 1:3647-3652.
ADD	9.	Rossier, J.S. et al. (2000) "Electrophoresis with Electrochemical Detection in a Polymer Microdevice," <i>J. Electroanal. Chem.</i> 492:15-22.

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Applicant

Mingqi ZHAO et al.

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| 10. | Rossier, J.S. et al. (2001). "Enzyme Linked Immunosorbent Assay on a Microchip with Electrochemical Detection," <i>Lab on a Chip</i> 1:153-157.                                                                                                                                         |
| 11. | Schwarz, A. et al. (1998). "Micro-TAS on Polymer Substrates Micromachined by Laser Photoablation," in <i>Proceedings of the TAS'98 Workshop Held in Banff, Canada, 13-16 October 1998</i> . Harrson D.J and A. van den Berg (eds.). Kluwer Academic Publishers: Dordrecht. pp. 241-244. |
| 12. | Wolley, A.T. et al. (1998). "Capillary Electrophoresis Chips with Integrated Electrochemical Detection," <i>Anal. Chem.</i> 70(4):684-688.                                                                                                                                              |

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